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1. Your reference — P30612-/HGR/GMU

2. Patent application number *(The Patent Office will fill in this part)* — 0203209.2 — 12 FEB 2002

3. Full name, address and postcode of the or of each applicant *(underline all surnames)*

John D Pitt
5 Carlaverock Road
Glasgow
G43 2SA

Patents ADP number *(if you know it)* 7511751001

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention — "Method and Apparatus for Displaying Advertisements on Vehicles"

5. Name of your agent *(if you have one)* — Murgitroyd & Company

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*

Scotland House
165-169 Scotland Street
Glasgow
G5 8PL

Patents ADP number *(if you know it)* — 1198013 ✓

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number

Country	Priority application number *(if you know it)*	Date of filing *(day / month / year)*

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application	Date of filing *(day / month / year)*

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer 'Yes' if:*

a) any applicant named in part 3 is not an inventor, or
b) there is an inventor who is not named as an applicant, or
c) any named applicant is a corporate body.
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Continuation sheets of this form	
Description	19
Claim *(s)*	-
Abstract	-
Drawing *(s)*	5 as

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Priority documents	-
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Statement of inventorship and right to grant of a patent *(Patents Form 7/77)*	-
Request for preliminary examination and search *(Patents Form 9/77)*	-
Request for substantive examination *(Patents Form 10/77)*	-
Any other documents *(please specify)*	-

11. I/We request the grant of a patent on the basis of this application.

Signature Murgitroyd & Co. Date 11 February 2002

Murgitroyd & Company

12. Name and daytime telephone number of person to contact in the United Kingdom: Graham Murnane 0141 307 8400

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METHOD AND APPARATUS FOR DISPLAYING ADVERTISEMENTS ON A VEHICLE

This invention relates to advertisements, and relates more particularly but not exclusively to a system for selectively attaching advertisements to the sides of road vehicles or fixed sites in a readily demountable manner, and to a method of adapting road vehicles for the selective display of advertisements.

At present, static exterior advertisements are achieved using posters attached to a building surface or a panel provided on the building surface. The print medium used is typically paper which is pasted to the surface using an adhesive. Such advertisements require considerable effort to install and remove the paper medium, printing costs are relatively high and planning restrictions apply.

Furthermore, currently there are many load-carrying road vehicles having substantially vertical sides

which are either plain, or carry minimal information (e.g. merely the name of a transport company). These vehicle sides are extensively exposed to the sight of the general public, not least because the majority of journeys of load-carrying road vehicles take place on public roads that are also extensively used by pedestrians and/or users of personal road transport and/or passengers in public road transport. Consequently, the sides of load-carrying road vehicles represent a facility for mobile advertising that currently tends to be used only by the vehicle owners for self-advertisement. Some use of the exteriors of road vehicles is known for advertising by organisations other than the vehicle owner, but such advertising is currently limited to public transport vehicles that carry human passengers rather than inanimate cargoes, and the advertisements are either pasted-on paper, or in the nature of bodywork painting that is substantially permanent and not changeable without time-consuming repainting of the vehicle.

US 5,845,423 and US 5,657,566 address the problem of providing advertisements on the sides of load-carrying road vehicles, but the effectiveness of their solutions is hampered by the fact that the vehicles need extensive structural modification in the form of added rails, mounting brackets and fasteners and the like, to allow the mounting and removal of advertisement panels. Moreover the advertisement panels themselves are complicated and relatively expensive. Moreover the advertisement

panels can be used only with rigid sided vehicles, since they do not allow simple access to the side curtains of flexible sided vehicles, which provide access to the load area by allowing the removal or rolling up of flexible side curtains attached to the frame of the vehicle.

It is an object of the present invention to provide an alternative system and method for providing static exterior advertisements which require less effort to install or remove, reduce printing costs and avoid planning restrictions.

It is a further object of the present invention to provide a system and a method for enabling mobile advertisements to be selectively mounted on load-carrying road vehicles in a manner which is simple to carry out and which is cost effective, allowing the use of economical advertisement panels and the requiring minimal structural alterations to a vehicle to enable it to carry advertisement panels. It is a further object of the invention to provide a system and a method for enabling mobile advertisements to be selectively mounted on both rigid sided and flexible sided road vehicles.

As used in this specification, the term "vehicle" refers to a road vehicle possessing substantially vertical sides suitable for carrying advertisements, such sides including but not being restricted to permanently fixed sides, sides formed as one or more panels that are demountable or hinged for providing

access to a cargo carried by the vehicle, and curtain sides (i.e. curtains of more or less flexible sheet material whose upper edges are suspended from the vehicle, and whose lower edges are clipped or strapped to the vehicle).

As used in this specification, the term "advertisement" refers to at least one essentially two-dimensional image having an impression on a spectator that is primarily or wholly visual.

According to a first aspect of the present invention there is provided an advertising panel for mounting to a structure, the panel comprising a sheet of plastic mesh material having an image applied to a first side of the sheet, wherein the panel has an elongate fastener provided on at least one longitudinal edge, the elongate fastener having a thickness greater than the sheet and being adapted to engage with a corresponding slot provided on the structure.

Preferably, the advertising panel is mounted to the structure of a vehicle, such as a side panel of a vehicle. Alternatively, the advertising panel is mounted to a static structure, such as an advertising hoarding.

In one preferred embodiment the elongate fastener comprises a longitudinal member held within a hem of the sheet. Preferably the hem is formed by folding an edge of the sheet around the elongate fastener

and back against the sheet, then securing the edge to the sheet. Securing may be carried out by stitching, applying adhesive, thermal bonding, or any suitable method.

In another preferred embodiment the elongate fastener comprises a longitudinal member secured to the sheet by an edging strip. Preferably the edging strip passes around the elongate fastener and is secured to each side of the edge of the sheet. Securing may be carried out by stitching, applying adhesive, thermal bonding, or any suitable method.

The longitudinal member is preferably flexible, for example a rope, cord, rubber extrusion or similar. Preferably the panel has an elongate fastener provided on two opposite longitudinal edges.

Preferably the sheet is flexible. Preferably the sheet is of PVC, polyester or a combination thereof. Preferably the mesh is provided with apertures allowing air passage therethrough. Preferably the sheet has an air permeability of at least 1000 litres per second at 100 pascal.

Preferably the sheet of the advertising panel is a woven material. Preferably the warp and weft fibres are bonded to each other at their intersections.

Preferably the panel is substantially rectangular. In one embodiment the panel may be provided with an extension piece at one or each of the two opposite

side edges. Preferably the extension pieces are provided with securing means to allow them to be wrapped around the corner of a vehicle and secured to the vehicle. Preferably an extension piece is provided on the leading edge of the sheet, the leading edge being the edge nearest the front of the vehicle when the panel is mounted on a vehicle. Alternatively the leading edge of the sheet may be provided with a continuous fastener which extends substantially over the entire length of the leading edge. In another embodiment the panel may be provided with an elongate fastener as described above on each of the two opposite side edges, the fastener being adapted to engage with a track member on the structure.

According to a second aspect of the present invention there is provided a vehicle, the vehicle having a wall provided with a slot or slots on the exterior surface thereof, the vehicle having an advertising panel mounted on said exterior surface, the panel comprising a sheet of plastic mesh material having an image applied to a first side of the sheet, wherein the panel has an elongate fastener provided on at least one longitudinal edge, the elongate fastener having a thickness greater than the sheet and engaged with said slot or slots on said vehicle.

Preferably the advertising panel is a panel according to the first aspect of the present

invention. Preferably the exterior surface is on a side wall of the vehicle.

Preferably the slot or slots are provided in one or more strip members bonded to the side wall by adhesive. Alternatively the strip members may be secured to the side wall by fixing means such as bolts, screw, rivets or similar. Preferably the strip members are extruded members. Preferably the slot or slots are shaped to allow keying of the elongate fastener with the slot or slots. In one preferred embodiment strip members shaped to allow keying of the elongate fastener are provided on the upper and lower edges of the exterior surface, while push-fit track members shaped to allow reversible snap engagement of the elongate fastener are provided on the vertical side edges of the exterior surface.

The strip members may extend continuously over the length of the elongate fastener. Alternatively, the strip members are provided as discrete strips spaced at regular intervals on the vehicle.

According to a third aspect of the present invention there is provided a vehicle, the vehicle having a load bearing volume at least partially enclosed by a curtain, said curtain being provided with a slot or slots on the exterior surface thereof, the vehicle having an advertising panel on said exterior surface, the panel comprising a sheet of plastic mesh material having an image applied to a first

side of the sheet, wherein the panel has an elongate fastener provided on at least one longitudinal edge, the elongate fastener having a thickness greater than the sheet and engaged with said slot or slots on said vehicle.

Preferably the advertising panel is a panel according to the first aspect of the present invention. Preferably the exterior surface is on a side wall of the vehicle.

Preferably the slot or slots are provided in one or more strip members bonded to the curtain by adhesive. Alternatively they may be secured to the curtain by thermal bonding, ultrasonic bonding, stitching, moulding or similar. Alternatively the strip members may be secured to the curtain by fixing means such as bolts, screw, rivets or similar, preferably in conjunction with a washer plate on the opposite surface of the curtain. Preferably the strip members are extruded members. Preferably the slot or slots are shaped to allow keying of the elongate fastener with the slot or slots. In one preferred embodiment strip members shaped to allow keying of the elongate fastener are provided on the upper and lower edges of the curtain, while push-fit track members shaped to allow reversible snap engagement of the elongate fastener are provided on the vertical side edges of the curtain.

Preferably the strip members are provided as discrete strips spaced at regular intervals on the vehicle.

According to a fourth aspect of the present invention there is provided a method of modifying a vehicle to display at least one advertising panel on at least one surface of the vehicle, the panel comprising a sheet of plastic mesh material having an image applied to a first side of the sheet, wherein the panel has an elongate fastener provided on at least one longitudinal edge, the elongate fastener having a thickness greater than the sheet said method comprising the steps of:

securing one or more slotted strip members in a predetermined pattern on the surface of the vehicle or on a curtain adapted to be mounted on the surface of the vehicle, and

releasably attaching the advertising panel to the one or more slotted strip members by engaging the elongate fastener in the slots provided on the one or more slotted strip members.

Preferably the advertising panel is a panel according to the first aspect of the present invention. Push-fit track members may also be used.

According to a fifth aspect of the present invention there is provided an advertising panel for mounting to a structure, the panel comprising a sheet of plastic material having an image applied to a first side of the sheet, wherein the panel has a plurality

of resilient attachment means provided along at least one edge of the panel. Preferably the panel is of mesh material.

According to a sixth aspect of the present invention there is provided a vehicle having a rear door, the rear door having mounted thereon an advertising panel according to the fifth aspect of the present invention. Preferably the rear door is a roller shutter door. Preferably the rear door has attachment fixings secured thereto, each attachment means being attached to an attachment fixing. Preferably the resilient attachment means are adapted to allow elastic extension of the attachment means when the roller shutter door is in its rolled state with the advertising panel mounted thereon.

Preferably the resilient attachment means comprises elastic tension members of natural or synthetic rubber. These may be in the form of bands, loops, rods or any suitable form. They may pass through an eyelet in the panel, or they may be attached to the panel by any suitable securing means, including fasteners, rivets, adhesive and stitching.

Preferably the sheet is flexible. Preferably the sheet is of PVC, polyester or a combination thereof. Preferably the mesh is provided with apertures allowing air passage therethrough. Preferably the sheet has an air permeability of at least 1000 litres per second at 100 pascal.

Preferably the sheet of the advertising panel is a woven material. Preferably the warp and weft fibres are bonded to each other at their intersections. Embodiments of the invention will now be described by way of example only, with reference to the drawings in which:

Fig. 1 shows a curtain-sided lorry provided with slotted strip members to allow attachment of an advertising panel according to the invention;

Fig. 2 shows a rigid-sided lorry provided with slotted strip members to allow attachment of an advertising panel according to the invention;

Fig. 3 shows the lorry of Fig. 1 with an advertising panel attached;

Fig. 4 shows the lorry of Fig. 2 with an advertising panel attached;

Fig. 5 shows sectional views of the slotted strip members and the attachment of the edge of the advertising panel according to various embodiments of the invention;

Fig. 6 shows a side view of one of the slotted strip members of Fig. 5;

Fig. 7 shows a side view of another of the slotted strip members of Fig. 5;

Fig. 8 shows a vehicle having a roller shutter door equipped to carry an advertising panel according to the invention;

Fig. 9 shows the roller shutter door of Fig. 8 with an advertising panel attached in the unrolled and rolled positions;

Fig. 10 shows an attachment means for the advertising panel of Fig. 9;

Fig. 11 shows various alternative attachment means;

Figs. 12 and 13 show alternative edge arrangements for the panels of Figs. 1 to 7; and

Fig. 14 shows a cross-sectional view of a push-fit track member used to secure the side edges of the panels of Figs. 1 to 7.

Fig. 1 shows a vehicle in the form of a lorry 10 having a load area 12 which is covered on each longitudinal side by a curtain 14. The curtain 14 is secured to the vehicle 10 at its upper edge and is tensioned in a conventional manner by means of tensioning straps 18 which connect the lower edge of the curtain to the vehicle. The curtain 14 and straps 18 are well known in the art and may be of any suitable flexible material. Typically the curtain 14 is of reinforced PVC while the straps 18 are of nylon webbing.

The surface of the curtain 18 has a number of slotted strip members 30 fixed to it, arranged in an upper row and a lower row. They may be fixed by adhesive 42 or other suitable means of securing the members to the curtain, including fixing means such as bolts, screw, rivets, staples or similar. In practice the combination of stainless steel machine screws, nyloc™ nuts and a washer plate has been found to be an effective fastening means. Alternatively the slotted strip members may be secured to the curtain by thermal bonding, ultrasonic bonding, stitching, moulding or similar. The slotted strip members 30 are of moulded or extruded plastic and various non-limiting shapes are shown in Fig. 5. The members have a cylindrical passage 34 extending therethrough and a slot 36 in one side, allowing access to the passage 34.

The slotted strip members 30 are selected and positioned to engage with elongate fasteners 22 provided on the longitudinal edges 24 of an advertising panel 20, as shown in Figs. 5, 12 and 13.

Two vertical push-fit track members 40 are also secured to the curtain, one at each side. These are secured to the curtain in the same way as the slotted strip members 30.

Fig. 2 shows a lorry 10 having a load area 12 which is covered on each longitudinal side by a rigid wall 16. The arrangement of slotted strip members 30 on

the rigid wall 16 can be the same as that described above with respect to the curtain 14 of Fig. 1, although in Fig. 2 two continuous slotted strip members 32 are shown, one upper member and one lower member. The members 32 are bonded to the wall by means of adhesive 42, although it is to be understood that other suitable means of securing the members to the wall may be used, including fixing means such as bolts, screw, rivets, staples or similar. As in Fig. 1, two vertical push-fit track members 40 are also secured to the wall, one at each side. These are secured to the wall in the same way as the slotted strip members 32.

Fig. 3 shows the curtain sided lorry 10 of Fig. 1 with an advertising panel 20 fixed to the curtain 14 using fasteners 22 which engage with the slotted strip members 30 and the push-fit track members 40. The panel 20 is described in more detail below. The edges 24 of the panel 20 are threaded through the slots 36 starting at one end of the lorry 10. While Fig. 3 shows the panel 20 on a side wall of the vehicle 10, it is to be understood that the panel may be fitted to any surface of the vehicle 10, including the rear surface or the roof.

Fig. 4 shows the rigid sided lorry 10 of Fig. 2 with an advertising panel 20 fixed to the wall 16 in the manner described above with reference to Fig. 3.

In both cases the vertical edges 26 of the panel 20 are engaged with the resilient extruded PVC push-fit

track members 40 as shown in Fig. 14. However the vertical edges 26 may alternatively be attached by any other suitable means, such as a strip of hook and loop fastener provided at each vertical edge, or by extending the plastic mesh material of the panel 20 around the corner of the vehicle 10 and securing it to the structure of the vehicle in any suitable way.

The construction of the advertising panel 20 will now be described with reference to Figs. 5, 12 and 13. The panel comprises a sheet 28 of plastic mesh material. Typically the mesh material comprises a polyester base fabric coated with PVC. The base fabric may have between 3 and 10 (preferably 5) threads per cm in both warp and weft directions. Flexible plasticised PVC is applied to both sides to produce a material having a weight of between 100 and 800 g/m^2, preferably between about 200 and 550 g/m^2. The apertures in the mesh allow an air permeability of between 1000 and 6000 litres/second at 100 pascal, preferably about 2800 litres/second. A suitable mesh is that sold by VUFLEX Digital under the name VUFLEX Digital 550, although it is to be understood that any suitable plastic mesh may be used. The mesh must be capable of being printed on, to provide an advertising image on one side. Any suitable printing process may be used, such as laser printing or screen printing.

Reinforcing strips (not shown) of reinforced PVC or similar material may be bonded to any or all of the

edges of the mesh sheet 28 to prevent the advertising panel 20 from tearing or stretching in use. The reinforcing strips may be bonded by adhesive or by ultrasonic welding. The strips may be of polyester scrim coated with PVC for easy joining to the mesh sheet 28. The thickness of the strips is chosen so that the sheet 28 can be subject to the chosen printing process even with the strips attached. Typically the reinforcing strips are between 5 and 15 cm wide, and extend to the perimeter of the sheet 28.

Elongate fasteners 22 are bonded to the longitudinal edges 24 of the mesh sheet 28, with or without reinforcing strips, by wrapping the edge of the sheet around the fastener 22 and stitching with thread 56 or bonding to form a hem 50, as in Fig. 12, or by attaching and bonding an edge strip 52, as in Fig. 13. Thermal or adhesive 58 bonding may be used. The elongate fastener 22 comprises a cord or rope 54, or extruded flexible plastic or rubber, held in the hem 50 or edge strip 52. The cord or rope 54 may be free to slide in the hem 50 or edge strip 54, or may be restrained or bonded to the hem 50 or edge strip 52. Similar elongate fasteners 22 are provided on the vertical edges 26 of the panel if push-fit track members 40 are used to secure the vertical edges.

It has been found that it is advantageous to provide a continuous fastener, preferably a fastener which can engage with the push-fit track member 40 or a

fastener such as a hook and loop fastener (not shown), extending all the way along the leading edge of the advertising panel 20. The leading edge is that edge which is nearer the front of the vehicle in use. The use of a continuous fastener engaging with a corresponding continuous fastener on the vehicle 10 prevents the leading edge of the panel 20 lifting away from the vehicle at any point, and helps to hold the panel 20 to the wall 16 or curtain 14 without flapping. The same effect can be achieved by continuing the panel around the corner of the vehicle and securing it in place by any suitable means to the end wall of the vehicle.

Particular arrangements of fasteners are provided for particular models of vehicles 10 and their corresponding adverting panels 20. For example a Transit® van might carry a particular size of advertising panel 20; panels for these vans would carry a particular pattern of fasteners. Corresponding fasteners on Transit® vans would be fixed to the side wall 16 of the van in a corresponding pattern using a particular Transit® stencil. Similarly, a particular make of Trailer might carry a particular larger size of advertising panel 20; panels for these trailers would carry a different particular pattern of fasteners. Corresponding fasteners on the trailers would be fixed to the curtain 14 or side wall 16 of the trailer in a corresponding pattern using a particular trailer stencil.

Referring to Fig. 5, there are shown cross-sectional profiles 38a-h of the discrete or continuous slotted strip members 30, 32. Profiles 38a-d and 38h have the slot 36 in a side face, while profiles 38e-g have the slot 36 in a lower face. Profiles 38a and 38b are attached by bonding using adhesive 42 or similar, while profiles 38c-h are attached using fasteners (not shown) which pass through apertures 44. A washer plate (not shown) may be used with nuts and threaded fasteners to secure the profiles 38c-h to a curtain 14, or conventional fasteners may be passed through the apertures 44 to secure the profiles 38c-h to a rigid wall 16.

Fig. 6 shows a side elevation of profile 38g. Screw holes 44 are provided at top and bottom for increased stability. The slot 36 is not visible in use, and the advertising panel 20 hangs straight, eliminating wear. Fig. 7 shows a side elevation of profile 38h. Screw holes 44 are provided in the passage 34 so that they remain hidden in use. Light fittings 46 are provided at spaced intervals along the strip member for illumination of the advertising panel 20.

A method of attaching an advertising panel 20 to the rear of a vehicle which may be provided with a roller shutter door is now described with reference to Figs. 8 to 11. A vehicle 10 has a rear wall 60 having a roller shutter door 62. Attached to the shutters of the door 62 at four corners are attachment fixings 66, comprising a plate 70, a loop

72 and apertures 74 for fasteners (not shown) such as screws, bolts, rivets or the like. An advertising panel 20 of the type described above with reference to Figs. 1 to 7 is attached to the attachment fixings 66 by means of four resilient attachment means 64, of natural or synthetic rubber. Fig. 11 shows four possible shapes for the attachment means 64a-d, but is not to be construed as limiting on the shape. Moreover it is to be understood that more than four attachment means 64 may be used, or alternatively more or fewer resilient attachment means 64 may be used in conjunction with some other means of fastening, such as hook and loop fasteners (not shown) or the slot-engaging elongate fasteners 22 described above.

In the embodiment of Figs. 8 to 11 the advertising panel can be used with resilient attachment means 64 only, so that the elongate fasteners 22 can be omitted. The resilient attachment means 64 allow stretching, so that when the roller shutter door 62 is opened by rolling the shutters 61 around a spool 63, as shown in Fig. 9, the attachment means 64 become elongated to allow for the increased effective length between the top and bottom attachment fixings 66 resulting from the separation of adjacent shutters 61.

Modifications and variations of the above-described embodiments can be adopted without departing from the scope of the invention.

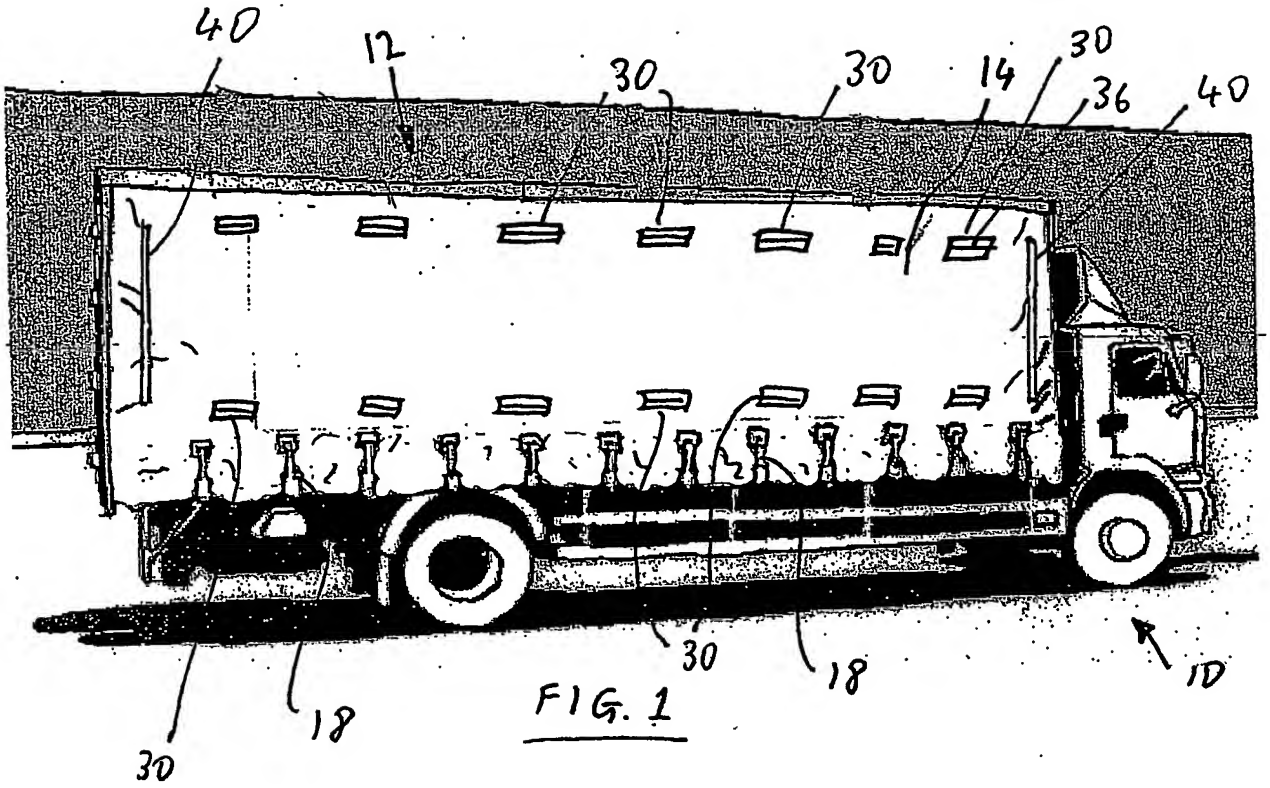

FIG. 1

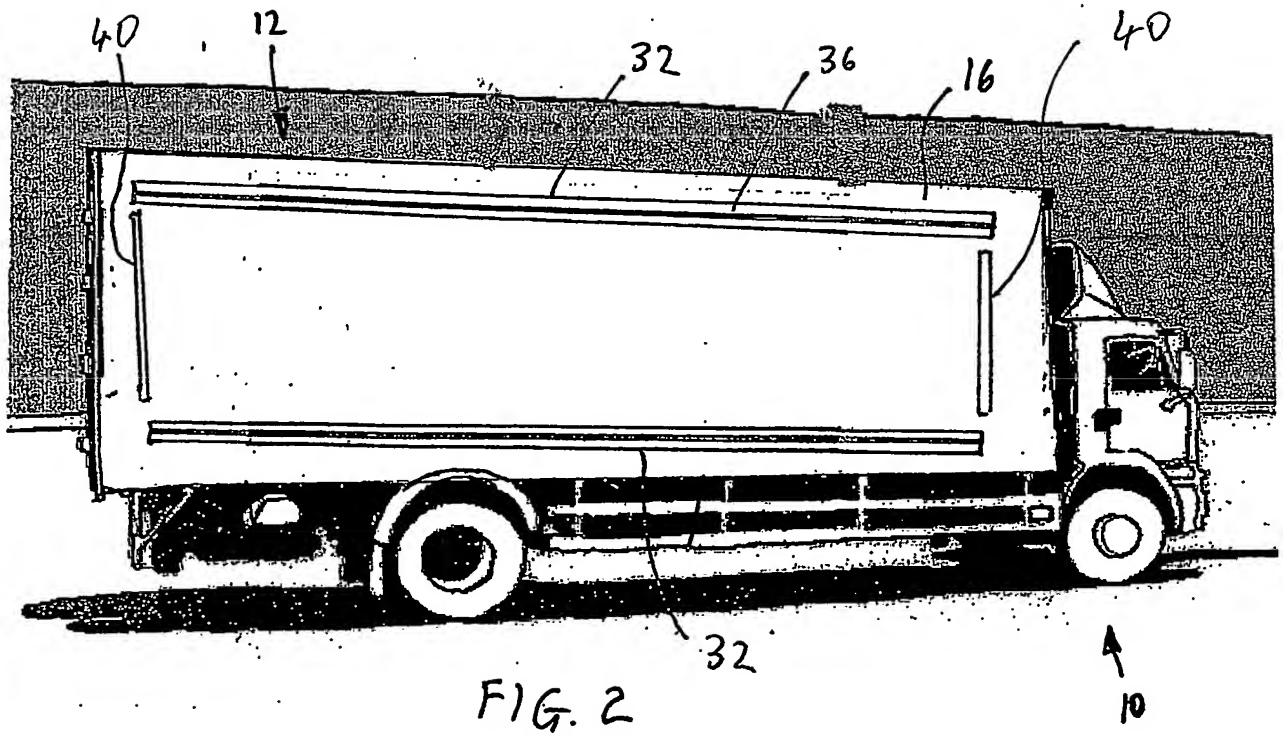

FIG. 2

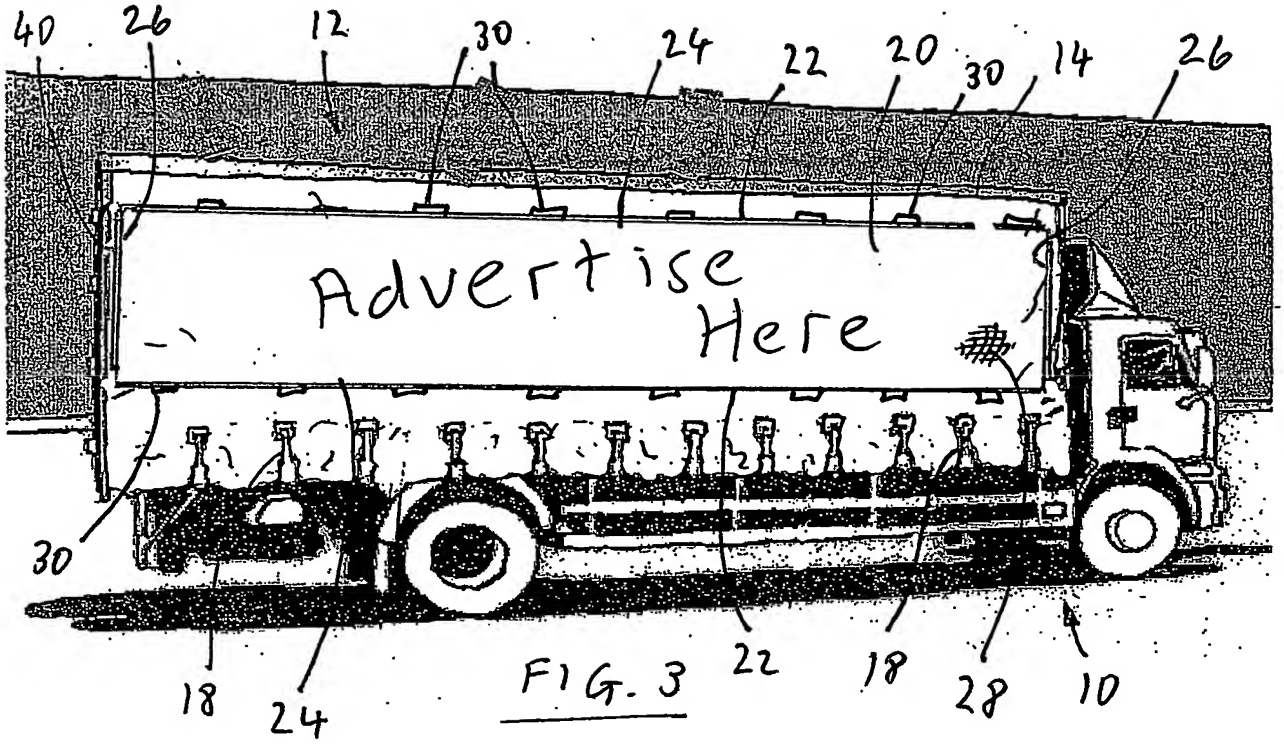
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FIG. 3

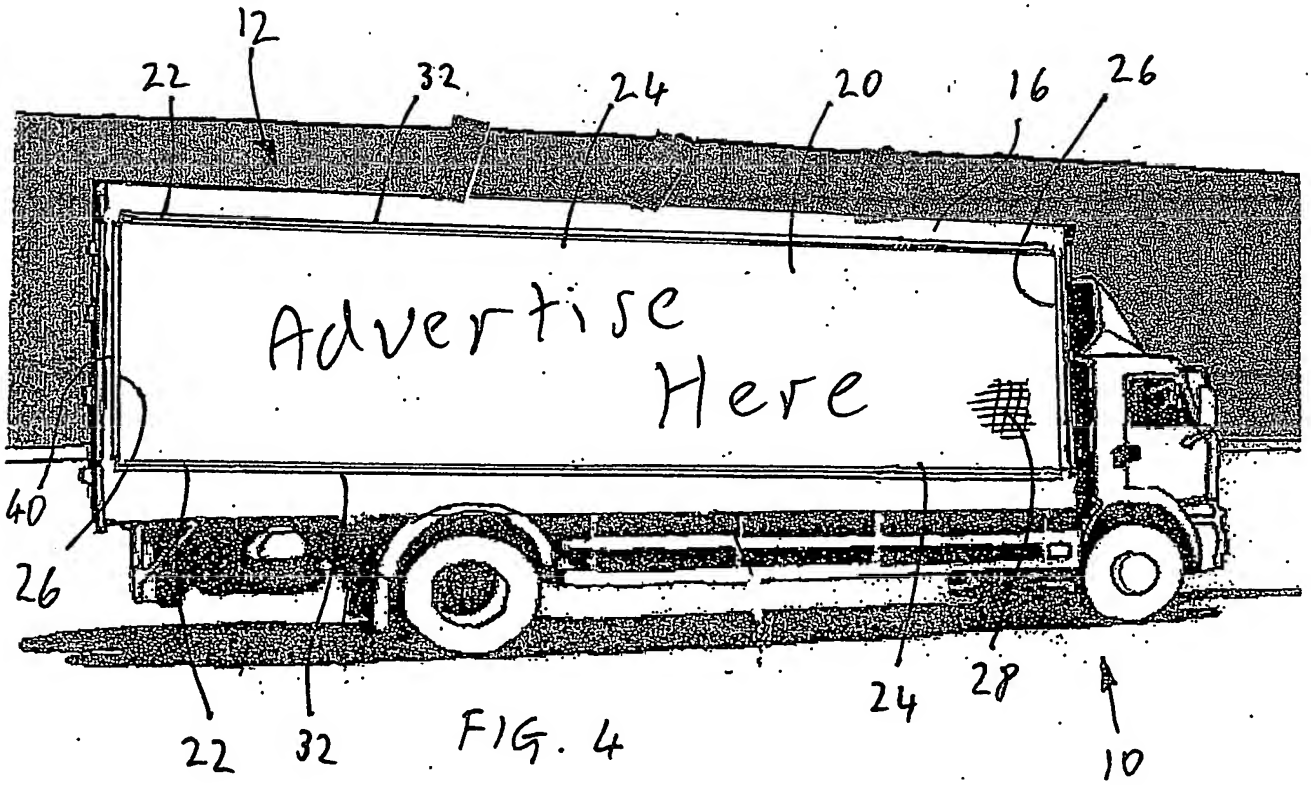
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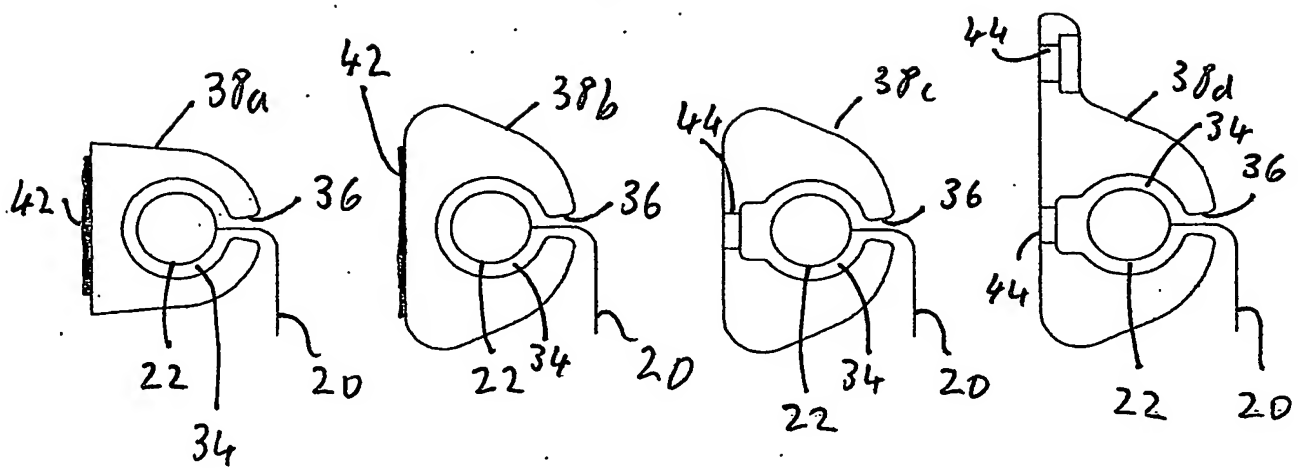
FIG. 4



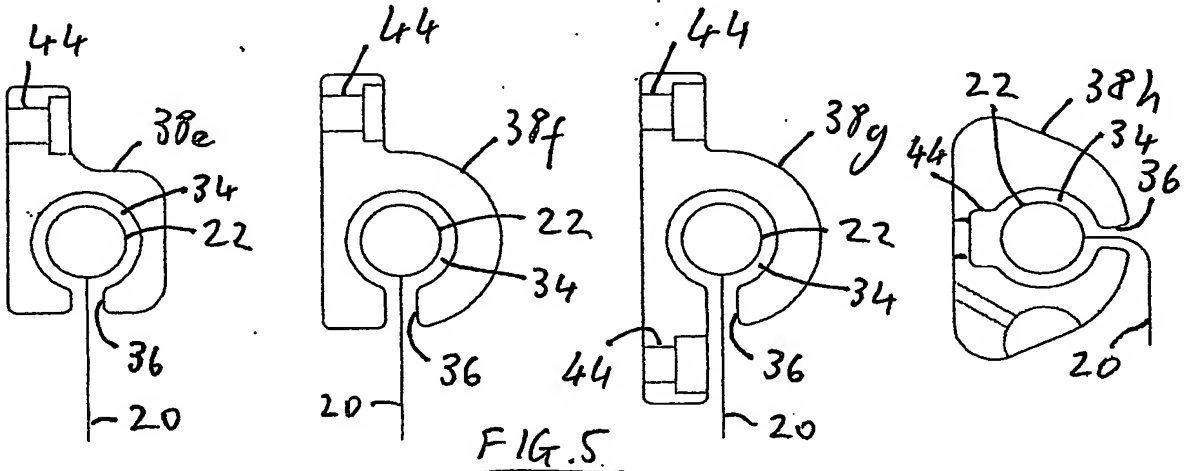


FIG. 5

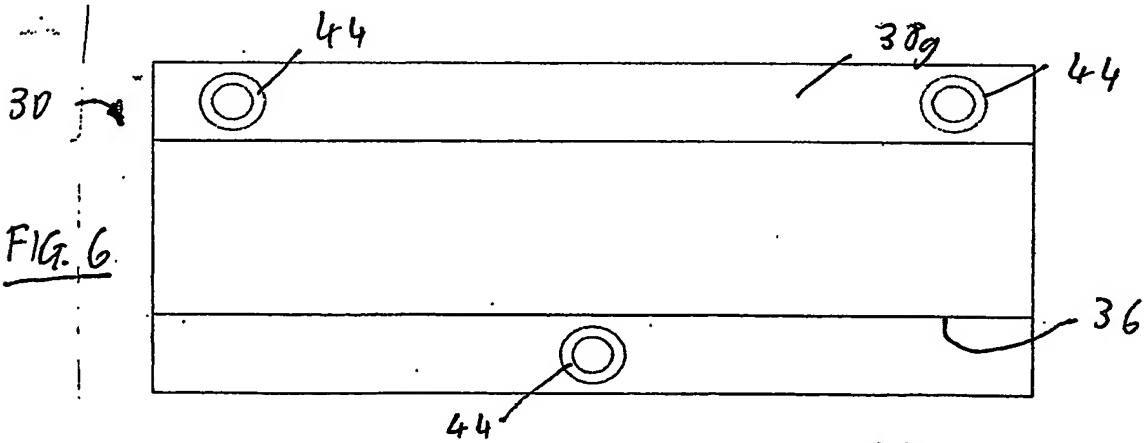


FIG. 6

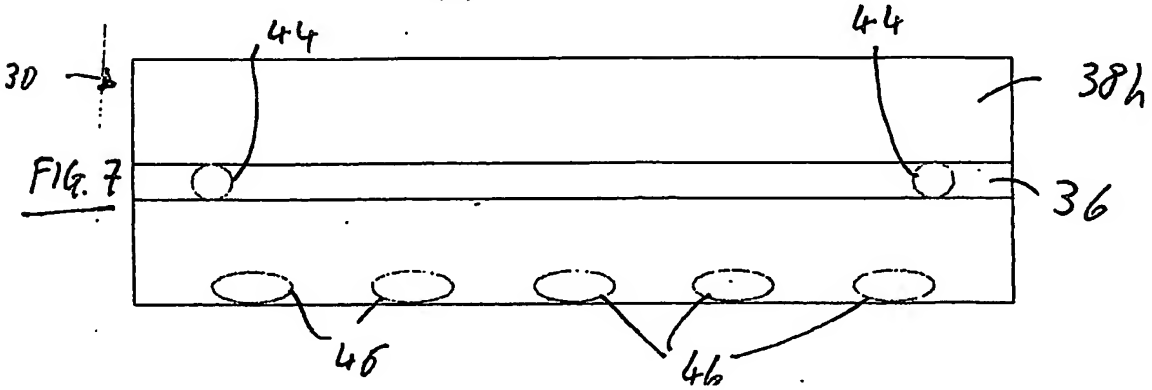


FIG. 7

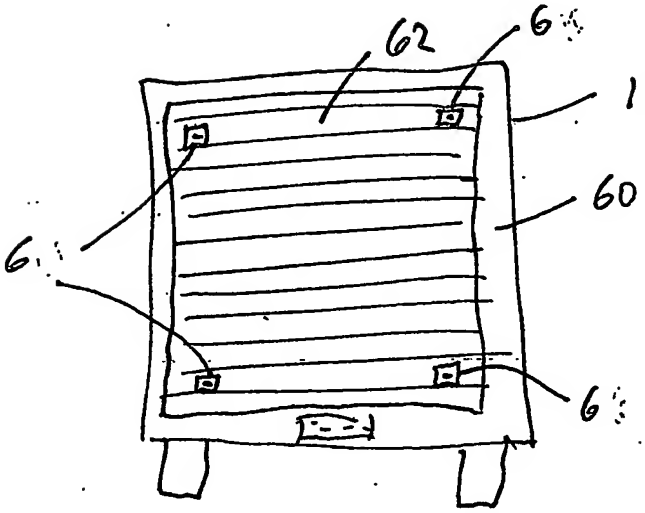
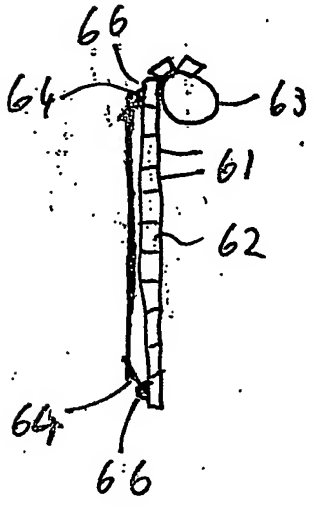


FIG. 8



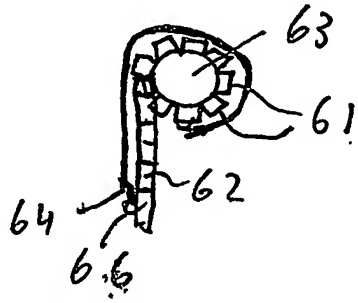


FIG. 9

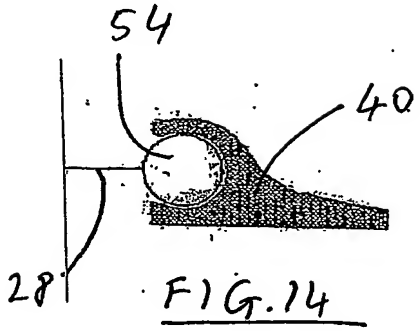


FIG. 14

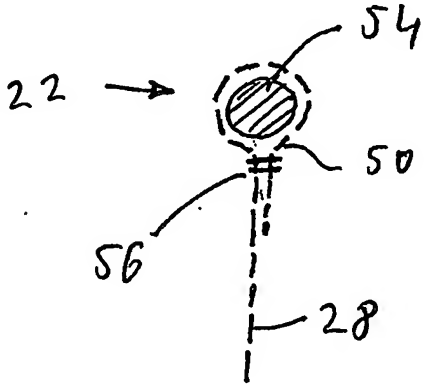


FIG. 12

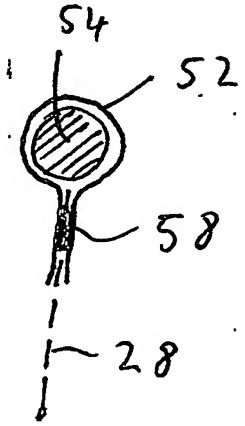


FIG. 13

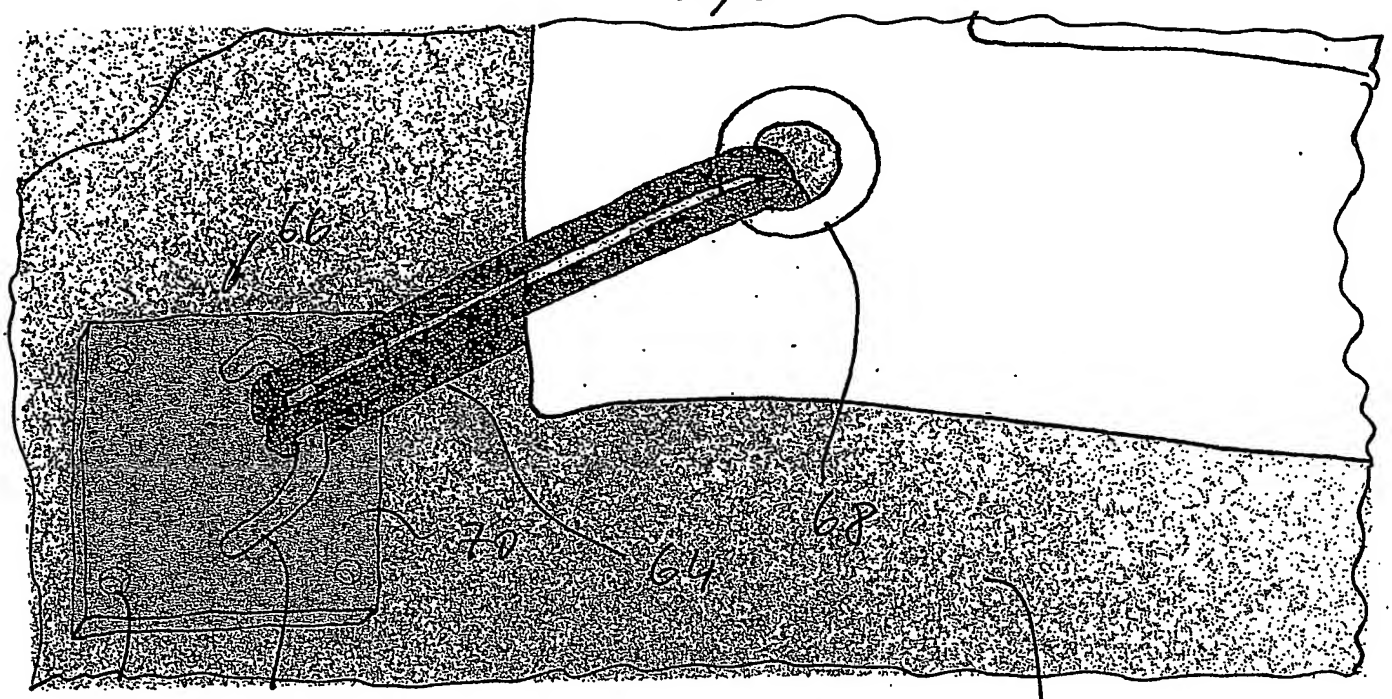


FIG. 10